Technical Procedures for Processing with Powders

1 Scope

Powdering is the application of finely ground, colored powder, which adheres to moisture, oils, and other residues, used by FBI Laboratory Friction Ridge Discipline personnel to develop latent prints.

2 Equipment/Materials/Reagents

Nonmagnetic powders

Magnetic powders

Applicators

3 Procedures

3.1 Application

Personnel will complete the following steps in order:

3.1.1 Nonmagnetic Powders

1. Pour needed amount of powder into a small pile or dish.
2. Dip brush bristle tips into powder.
3. Gently brush surface.
4. Brush in direction of any ridges that begin to appear.
5. Build powder onto ridges and stop when latent print reaches a point of sufficient development.

For additional clarity, cotton may be swabbed across the item to increase contrast between the print(s) and the surface of the item.

For digital capture and photography, see FBI Friction Ridge Discipline Processing Manual Preamble.

3.1.2 Magnetic Powders

1. Place magnetic wand with magnet engaged into a container or small dish of magnetic powder - this will produce a bristle-like effect at the end of the wand when withdrawn.

2. Apply to item surface, ensuring that only the powder touches the surface.

3. When finished, release excess powder into container by disengaging the magnet.

For additional clarity, excess powder can be removed from the print(s) and surrounding area using an empty magnetic wand.

For digital capture and photography, see FBI Friction Ridge Discipline Processing Manual Preamble.

3.2 Storage

Powders may be stored in any approved laboratory containers.

3.3 Shelf Life

Powders have an indefinite shelf life (may require a desiccator for long term storage).

4 Safety

See FBI Laboratory Safety Manual for appropriate information.

5 Standards and Controls

Not applicable.

6 Sampling

Not applicable.

7 Calculations

Not applicable.

8 Measurement Uncertainty

Not applicable.

9 Limitations

Not applicable.

10 References

FBI Laboratory Safety Manual, Federal Bureau of Investigation, Laboratory Division. Latest Revision.

FBI Friction Ridge Discipline Processing Manual, Preamble, Federal Bureau of Investigation, Laboratory Division. Latest Revision.

Sodhi, G. S. and Kaur, J. "Powder Method for Detecting Latent Fingerprints: A Review". *Forensic Science International*. 120(3):172.

Trozzi, T. A., Schwartz, R. L., and Hollars, M. L. *Processing Guide for Developing Latent Prints*, FBI Laboratory, Washington DC, 2001.

Rev. #	Issue Date	History
1	10/02/17	Section 1, latent print personnel added. Section 4 removed and remaining renumbered. Titles for Section 4 and Section 7 modified. Section 9, generalized. Updated for Biometrics Analysis Unit. References updated.
2	07/15/21	Replace Latent Print Units with Friction Ridge Discipline. Minor wording changes. Streamline equipment list. Re-organization and re-numbering of sections. Section 3.1 broken into Section 3.1.1 and Section 3.1.2 and added capture information.

Approval Redact - Signatures on File

Friction Ridge Discipline
Technical Leader Date: 07/14/2021

Latent Print Operations
Unit Chief Date: 07/14/2021

Latent Print Support Unit
Chief Date: 07/14/2021

Scientific and Biometrics
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